

REMARKS

Claims 1-18 were presented in the application as filed, and claims 8-18 were cancelled and new claims 19-28 were added in a Preliminary Amendment filed with the application. Claims 1, 2, 4-7, 19, 20, and 27 were cancelled, and new claims 29 and 30 were added in a Response filed on November 19, 2004. Claims 31-35 were added in a Response filed on April 11, 2005. Claims 31 and 32 were cancelled, and new claims 36-38 were added in a Request for Continued Examination filed on December 14, 2005. Claims 3, 21-26, 28, 34, and 35 were amended; claims 33 and 36-38 were cancelled; and claims 42-49 were added in a Response filed September 15, 2006. Claims 3, 28, 43, and 46 were amended, and claims 43 and 46 were cancelled in a Response filed March 27, 2007. Claims 3, 24, and 28 are amended; claims 21, 28, 35, 44, and 47 are cancelled; and claims 50-67 are new. Claims 3, 22-26, 28-30, 34, 39-42, 45, and 48-67, are pending. Reconsideration of the application and allowance of all claims pending herein are respectfully requested in view of the remarks below.

Applicants have amended the claims to an open flame resistant mattress and an open flame resistant article in an effort to better define Applicants' invention and to distinguish over the combined applied prior art. Specifically, independent claims 3 and 28 have been amended to include three limitations on the nature of the fire barrier fabriclayer and one limitation on the nature of the thermally insulating fabric layer.

The fire barrier fabric layer is either woven or knitted; comprises at least one char forming flame retardant fiber selected from the group comprising of fiberglass, modacrylic fibers, para-aramid fibers, meta-aramid fibers, flame retardant viscose fibers, flame retardant rayon fibers, flame retardant polyester, and blends thereof; and the weight of the fire barrier fabric is in a range from 0.25 oz. to 8 oz. per square yard of the fire barrier textile. Support for the amendments can be found in paragraphs 22, 26, and 34 of the specification. The thermally insulating fabric layer comprises at least one charforming flame retardant fiber selected from the group comprising of fiberglass, modacrylic fibers, para-aramid fibers, meta-aramid fibers, flame retardant viscose fibers, flame retardant rayon fibers, flame retardant polyester, and blends thereof. Support for the amendment can be found in paragraph 22 of the specification.

New claims 50-58 have been added and are dependent on amended claim 3. The foregoing claims encompass different combinations of the limitations discussed above. Support for the claims can be found in paragraph 22 of the specification.

New claims 59-67 have been added and are dependent on amended claim 28. The foregoing claims encompass different combinations of the limitations discussed above. Support for the claims also can be found in paragraph 22 of the specification.

No new matter has been added.

CLAIM REJECTIONS UNDER 35 U.S.C. § 103

In the Office Action, claims 3, 21-26, 28-30, and 33-49 are rejected under 35 U.S.C. §103(a) as being unpatentable over U.S. Patent No. 6,718,583 to Diaz in view of U.S. Patent No. 4,794,037 to Hosoda *et al.*, U.S. Patent No. 3,493,980 to Haller, and further in view of U.S. Patent No. 3,956,783 to Stoller. Claims 3, 28, and 48 are independent.

In order to establish a *prima facie* case of obviousness, three basic criteria must be met. First, there must be some suggestion or motivation, either in the references themselves or in the knowledge generally available to one of ordinary skill in the art, to modify the reference or to combine reference teachings. Second, there must be a reasonable expectation of success. Finally, the prior art reference (or references when combined) must teach or suggest all the claim limitations [see, MPEP 2143].

Regarding claim 3, Diaz is alleged disclose an open flame mattress having the features of claim 3 except for a thermally insulating fabric layer having one charforming flame retardant fiber. Hosoda *et al.*, Haller, and Stoller are alleged to disclose the elements missing from Diaz.

Applicants' amended claim 3 of the present application recites an open flame resistant mattress including: a core of the mattress comprising springs, foam material, a water bladder, batting, an air bladder, and a hairblock; an outermost decorative fabric layer of a ticking layer partially enclosing the core; a fire barrier textile disposed between the core and the ticking layer of the mattress. Further, the fire barrier textile is made up of two distinct layers both of which are fabric layers. The fabric layers are a fire barrier layer and a thermally insulating layer. The fire barrier fabric layer is a woven or knitted fabric having a weight in a range from 0.25 oz. to 9 oz. per square yard of the fire barrier textile and comprises at least one charforming material selected from fiberglass, modacrylic fibers, para-aramid fibers, meta-aramid fibers, fire retardant viscose fibers, flame retardant rayon fibers, flame retardant polyester, and blends thereof. The

thermally insulating fabric layer also comprises the foregoing charforming materials and is attached to the fire barrier fabric layer via needle punching such that the thermally insulating fabric layer is disposed in the fire barrier fabric layer.

Diaz discloses a mattress having a foam base surrounded by a fire resistant (FR) material with a separate ticking covering the FR material. The intersecting planar surfaces form a flange, which is sandwiched between a fire-retardant treated edge-binding tape. The flange is sewn with a fire retardant thread, which keeps the flange from bursting when exposed to a flame or heat. Both layers are not components of a single fire barrier textile. The mattress is simply surrounded by a FR layer with a separate nonFR layer (ticking) surround the FR layer.

This is one significant structural difference between the fire barrier textile of the present invention and the FR material used in Diaz's mattress. Diaz does not disclose a fire barrier textile having a fire barrier fabric layer and a thermally insulating fabric layer. Diaz also does not disclose a fire barrier fabric layer that is a woven or knitted fabric having a weight in a range from 0.25 oz. to 9 oz. per square yard of the fire barrier textile and that comprises at least one char forming material selected from fiberglass, modacrylic fibers, paraaramid fibers, meta-aramid fibers, fire retardant viscose fibers, flame retardant rayon fibers, flame retardant polyester, and blends thereof, and a thermally insulating fabric layer that also comprises the foregoing char forming materials and is attached to the fire barrier fabric layer via needle punching.

Thus the structural elements missing from Diaz to meet the requirements of Applicants' claim is:

a first fabric layer that is a fire barrier fabric layer, which is woven or knit; has a weight in a range from 0.25 oz. to 9 oz. per square yard of the fire barrier textile; and that is made of fiberglass, modacrylic fibers, paraaramid fibers, meta-aramid fibers, fire retardant viscose fibers, flame retardant rayon fibers, flame retardant polyester, and blends thereof,

a thermally insulating fabric layer that is made of fiberglass, modacrylic fibers, paraaramid fibers, meta-aramid fibers, fire retardant viscose fibers, flame retardant rayon fibers, flame retardant polyester, and blends thereof, and is attached to the fire barrier fabric layer via needle punching.

a fire barrier fabric layer in combination with a thermally insulating fabric layer to form a fire barrier textile that is disposed between the core and ticking layer of the mattress.

Hosoda *et al.* discloses flameproof fire products and methods of making them. The flameproof fire products are made by chemically treating fabrics previously having antimony oxide with a halogen and/or phosphorous-based agent. For the halogen and/or phosphorous-based agents to be effective the fabric to be treated must have antimony trioxide present in the fabric.

Applicants respectfully assert that one possessing ordinary skill in the art would not be motivated to modify the ticking of Diaz, as suggested in the Office Action, with a halogen and/or phosphorous-based flame retardant agent as taught by Hosoda *et al.* It is well known that the ticking of a mattress is not made flame proof or flame resistant. Even Diaz notes that with reference to the ticking and edge binding that "[n]one of the component materials are usually made from fire retardant or flame resistant materials." See Diaz at col. 3, lines 21-27.

In particular, ticking is for decorative and comfort purposes. The visual appeal of a ticking would be greatly reduced if not destroyed as flame retardant fibers or materials are typically visually unappealing. Additionally, flame retardant fibers or materials are typically uncomfortable to the touch. A ticking having flame proof or flame resistant materials would reduce the comfort level of any product having the foregoing. Thus, one possessing ordinary skill in the art would not be motivated to modify the ticking of Diaz with flame retardant chemicals, such as the halogen and/or phosphorous-based agents, taught by Hosoda *et al.* due to the unwelcome and negative properties that would result.

Additionally, for the halogen and/or phosphorous-based agents to be effective in resisting a flame or heat, the fabric to be treated must have antimony trioxide present in the fabric. Diaz fails to teach or suggest a ticking having antimony trioxide present. For the same reasons set forth in the foregoing two paragraphs, one possessing ordinary skill in the art would not be motivated to modify the ticking of Diaz to incorporate antimony trioxide. Thus, even if Diaz is combined with Hosoda *et al.* as suggested in the Office Action, such a combination would fail to result in a ticking, which is flame proof because antimony trioxide is not present in the ticking of Diaz.

The flameproof fire products disclosed by Hosoda *et al.* are fabric(s) containing a cellulosic fiber and a polyester fiber having a carbonization burning mechanism for use as a

material in a curtain, car seat, bed cloth and sheet, and wall surfacing. The fabric has demonstrated use in children's clothing as shown by passing the testing requirements of U.S. DOC FF-3-71 (standard for the flammability of children's sleepwear).

Applicants respectfully assert that the Examiner is reaching a conclusion of obviousness that is derived from Applicants' specification. It is improper, in determining whether the person of ordinary skill would have been led to this combination of references, simply to "[use] that which the inventor taught against its teacher." *In re Lee*, 277 F.3d at 1343, citing *W.L. Gore & Assocs. V. Garlock, Inc.*, 721 f.2d 1540, 1553 (Fed.Cir. 1983). *Cardiac Pacemakers, Inc. v. St. Jude Medical, Inc.*, 381 F.3d 1371 (Fed. Cir. 2004) ("the suggestion to combine references must not be derived by hindsight from knowledge of the invention itself."). Using an Applicant's disclosure as a blueprint to reconstruct the claimed invention from isolated pieces of the prior art contravenes the statutory mandate of §103 which requires judging obviousness at the point in time when the invention was made. See *Grain Processing Corp. v. American Maize-Prods. Co.*, 840 F.2d 902, 907 (Fed. Cir. 1988).

There is no teaching or suggestion of Hosoda's fabric being used for a mattress or as an integral component of a mattress. A bed cloth or sheet, as recognized by one possessing ordinary skill in the art of mattresses, refers to bed linens, pillowcases, duvets, comforters, and general mattress accessories. A bed cloth or sheet as previously explained is not a part of a mattress or component of a mattress such as a ticking, a mattress core if one is present, an upholstery material, a tape edge, a tuft, and a mattress foundation and would never be considered as such.

Thus, one possessing ordinary skill in the art would not seek to or be motivated to modify the mattress of Diaz with the fabric material used in Hosoda *et al.* knowing that the fabric is not designed for use with a mattress or suggested for such. Accordingly, there would be no reason to combine these references.

Additionally, the fabric of Hosoda *et al.* was tested under U.S. DOC FF-3-71 for certification for use in children's sleepwear. The testing conditions used are designed for sleepwear and have no application for testing materials to be used for mattresses. A FR material passing U.S. DOC FF-3-71 would not necessarily pass tests for FR mattress certification under tests such as California Technical Bulletin (TB) 603 or Cal. TB 1176. One possessing ordinary skill in the art would recognize that the fabric materials of Hosoda *et al.*

would not be successful in passing the stringent California tests. A testament to the foregoing statement is that since issuance (December 27, 1988) of the patent, the FR fabrics claimed therein have not been commercially incorporated into FR mattresses to date.

Thus one possessing ordinary skill in the art would not seek to or be motivated to modify the mattress of Diaz with the fabric material disclosed in Hosoda *et al.* knowing that there would be no expectation of success for the fabric materials to pass the testing conditions required for FR mattress certification as well as the lack of any demonstrated commercial success with FR mattresses to date.

Furthermore, Hosoda *et al.* does not remedy five deficiencies still present in Diaz. Hosoda *et al.* does not teach or suggest five 1) a first fabric layer that is a fire barrier fabric layer, which is woven or knit, 2) that has a weight in a range from 0.25 oz. to 9 oz. per square yard of the fire barrier textile, and 3) that is made of fiberglass, modacrylic fibers, paraaramid fibers, meta-aramid fibers, fire retardant viscose fibers, flame retardant rayon fibers, flame retardant polyester, and blends thereof, and 4) a thermally insulating fabric layer that is made of fiberglass, modacrylic fibers, para-aramid fibers, meta-aramid fibers, fire retardant viscose fibers, flame retardant rayon fibers, flame retardant polyester, and blends thereof, and 5) that is attached to the fire barrier fabric layer via needle punching.

In light of the above, Applicants respectfully assert that no suggestion or motivation, either in the Diaz or Hosoda *et al.* themselves or in the knowledge generally available to one possessing ordinary skill in the art, to modify Diaz or to combine Diaz with Hosoda *et al.* Applicants also assert that there is no reasonable expectation of success that Diaz (or Diaz when combined with Hosoda *et al.*) teach or suggest all the claim limitations of amended claim 3.

Haller discloses a mattress generally comprising removable sanitary covers (12 and 14) and reinforced side panels (16). The sanitary covers are attached to the side panels via a zipper and the side panels are attached to the mattress coil springs via flanges. The side panels are directly attached to the inner mattress, *i.e.*, springs (28), via securing flanges (54). The top and bottom coverings (12, 14) are attached to the side panels (16) via zippers. The side panels are securely attached in that they have very little latitude for movement. Subsequently, the attached covers (12, 14) do not slide around or bunch up. The limited movement is critically dependent upon the attachment of the side panels to the inner springs via the attachment flanges.

The Examiner states in the Office Action that the top and bottom coverings (12, 14), and the reinforced side panels (16) of Haller are decorative fabric layers. Applicants respectfully assert that the foregoing statement is a matter of opinion on the Examiner's part. Nowhere in Haller is it taught or suggested a decorative fabric layer or the use of a decorative fabric layer. One possessing ordinary skill in the art would recognize that the top and bottom coverings, and the reinforced side panels are not decorative fabric layers or would be used as such. One would recognize that they are utilitarian in nature and meant for sanitary purposes, *i.e.*, being able to be removed frequently after soiling.

Thus, one possessing ordinary skill in the art would not seek to or be motivated to modify the mattress of Diaz, specifically the outermost decorative fabric layer, with the top and bottom coverings, and the reinforced side panels disclosed in Haller knowing that the foregoing are not decorative fabrics and thus would not function as such with Diaz.

If a proposal for modifying the prior art in an effort to attain the claimed invention causes the art to become inoperable or destroys its intended function, then the requisite motivation to make the modification would not have existed. *See In re Fritch*, 972 F.2d at 1265 n.12 ("A proposed modification [is] inappropriate for an obviousness inquiry when the modification render[s] the prior art reference inoperable for its intended purpose."); *In re Ratti*, 270 F.2d 810, 813 (C.C.P.A. 1959) (holding the suggested combination of references improper under § 103 because it "would require a substantial reconstruction and redesign of the elements shown in [a prior art reference] as well as a change in the basic principles under which [that reference's] construction was designed to operate").

If Diaz was modified to incorporate the top and bottom coverings (12, 14) and the side panels (16) of Haller as an outermost decorative fabric layer of the mattress of Diaz as suggested in the Office Action, the coverings and the side panels would have to be secured to the core of the mattress of Diaz via the attachment flanges (54) or some other attachment means. The attachment flanges or other attachment means would have to penetrate the fire barrier fabric layer (20) of Diaz to be secured to the inner mattress/springs of Diaz. This modification would render the overall flame resistance of the mattress of Diaz useless as a flame or heat could simply travel along the flammable flanges to the inner mattress core, which contains combustible material, and thus cause the mattress to combust. One possessing ordinary skill in the art would recognize that attempting to perform the foregoing modification,

i.e., combining Haller with Diaz, would destroy the intended function of Diaz's invention and render it inoperable.

Beyond looking to the prior art to determine if it suggests doing what the inventor has done, one must also consider if the art provides the required expectation of succeeding in that endeavor. See *In re Dow Chem. Co.*, 837 F.2d at 473 ("Both the suggestion and the expectation of success must be founded in the prior art, not in applicant's disclosure."). "Obviousness does not require absolute predictability, but a reasonable expectation of success is necessary." *In re Clinton*, 527 F.2d 1226, 1228 (C.C.P.A. 1976).

One possessing ordinary skill in the art would not seek to or be motivated to modify the mattress of Diaz with the top and bottom coverings and the side panels disclosed in Haller knowing that there would be no reasonable expectation of success for the combination and one is found in either Diaz or Haller.

As discussed above, Hosoda *et al.* does not remedy the deficiencies of Diaz. The combination of Haller also does not remedy the deficiencies present in Diaz alone, or the deficiencies present in Diaz and Hosoda *et al.* combined.

In light of the above, Applicants respectfully assert that there is no suggestion or motivation, either in Diaz, Hosoda *et al.*, or Haller themselves or in the knowledge generally available to one possessing ordinary skill in the art, to modify Diaz or to combine Diaz with Hosoda *et al.* and Haller. Applicants also assert that there is no reasonable expectation of success that Diaz (or Diaz when combined with Hosoda *et al.* and Haller) teach or suggest all the claim limitations of amended claim 3.

Stoller discloses a covering for a mattress, which comprises a non-woven fabric formed by needle punching batts of thermoplastic staple.

As discussed above, Hosoda *et al.* and Haller, alone or in combination, do not remedy the deficiencies of Diaz. The combination of Stoller still does not remedy the deficiencies present in Diaz alone, or the deficiencies present in Diaz, Hosoda *et al.*, and Haller combined. Among other deficiencies, the combination of Diaz, Hosoda *et al.*, Haller, and Stoller specifically do not teach or suggest 1) a first fabric layer that is a fire barrier fabric layer, which is woven or knit, 2) that has a weight in a range from 0.25 oz. to 9 oz. per square yard of the fire barrier

textile, and 3) that is made of fiberglass, modacrylic fibers, paraaramid fibers, meta-aramid fibers, fire retardant viscose fibers, flame retardant rayon fibers, flame retardant polyester, and blends thereof, and 4) a thermally insulating fabric layer that is made of fiberglass, modacrylic fibers, para-aramid fibers, meta-aramid fibers, fire retardant viscose fibers, flame retardant rayon fibers, flame retardant polyester, and blends thereof, and 5) that is attached to the fire barrier fabric layer via needle punching.

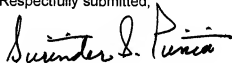
In light of the above, Applicants respectfully assert that a prima facie case of obviousness has not been established for rejection of Applicants' amended claim 3. Applicants respectfully assert that there is no suggestion or motivation, either in Diaz, Hosoda *et al.*, Haller, or Stoller themselves or in the knowledge generally available to one possessing ordinary skill in the art, to modify Diaz or to combine Diaz with Hosoda *et al.*, Haller, and Stoller. Applicants also assert that there is no reasonable expectation of success that Diaz (or Diaz when combined with Hosoda *et al.*, Haller, and Stoller) teach or suggest all the claim limitations of amended claim 3. Reconsideration of amended claim 3 under 35 U.S.C. § 103(a) is respectfully requested. Claims 22 -26, 34, 39, 40, 42, and 50-58, , which depend from amended claim 3 and add further limitations to an allowable claim, are believed allowable for the same reasons.

Applicants respectfully assert that a prima facie case of obviousness has not been established for rejection of Applicants' amended claim 28 and claim 48. For the same reasons set forth above regarding amended claim 3, Applicants respectfully assert that there is no suggestion or motivation, either in Diaz, Hosoda *et al.*, Haller, or Stoller themselves or in the knowledge generally available to one possessing ordinary skill in the art, to modify Diaz or to combine Diaz with Hosoda *et al.*, Haller, and Stoller. Applicants also assert that there is no reasonable expectation of success that Diaz (or Diaz when combined with Hosoda *et al.*, Haller, and Stoller) teach or suggest all the claim limitations of amended claim 28 and claim 48. Reconsideration of amended claim 28 and claim 48 under 35 U.S.C. § 103(a) is respectfully requested. Claims 29, 30, 41, 45, and 59-67, which depend from amended claim 28 and add further limitations to an allowable claim, are believed allowable for the same reasons.

There being no other outstanding issues, it is believed that the application is in condition for allowance, and such action is respectfully requested.

If a telephone conference would be of assistance in advancing the prosecution of the subject application, the Examiner is invited to contact applicants' representative at the number provided.

Respectfully submitted,

A handwritten signature in black ink, appearing to read "Surinder S. Punia", written over a horizontal line.

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Dated: December 12, 2007

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